# *Application*

# *for*

# *United States Patent*

***To all whom it may concern:***

*Be it known that I, Vivian A. Wright, a citizen of the USA, have invented a new and useful*

## *Percutaneous Endoscopic Gastrotomy Tube Holder*

*of which the following is a full and clear description:*

# PERCUTANEOUS ENDOSCOPIC GASTROTOMY TUBE HOLDER

## FIELD OF INVENTION

**[0001]** The present invention relates generally to an apparatus in the field of gastrointestinal therapy and more particularly to an apparatus for protecting a Percutaneous Endoscopic Gastrotomy (PEG) tube and stoma when fitted to a recipient.

## BACKGROUND OF THE INVENTION

**[0002]** Previous apparatuses have been developed for securing medical tubes in direct contact with a recipient's skin. These apparatuses may use an adhesive, which may be hypoallergenic, to affix the holding apparatus to the recipient's skin. In addition, the apparatuses must be secured around the tube itself. Some of these apparatuses hold a tube by applying an adhesive portion of the apparatus directly to the tube. Other apparatuses hold a tube by adhering opposing sides of the apparatus.

**[0003]** Applying an adhesive portion of a holding apparatus to a tube has numerous disadvantages. For instance, by directly adhering the tube to the holder, the range of movement of the tube may be limited. Furthermore, if medical personnel desire to remove the tube from the holder, the tube must first be removed from the adhesive portion of the holder. This may cause stress and damage to the tube. In addition, the adhesive portion of the holder may lose some of its adhesiveness each time the tube is removed from the holder causing the holder to lose the ability to securely hold a tube over time.

**[0004]** What is needed is a medical tube holding apparatus that allows the tube to be secured to a recipient and to the tube in such a manner that removal of the tube from the holder does

not cause damage to the tube. Furthermore, a PEG tube holding apparatus is needed that allows the tube to have a range of motion within the holder so that a recipient may not be restricted in his or her movement. Moreover, the PEG tube holding apparatus must be able to be produced at a low cost.

## SUMMARY OF THE INVENTION

**[0005]** The present invention is directed to solving one or more of the aforementioned problems.

**[0006]** In a preferred embodiment of the present invention, an apparatus for holding a percutaneous endoscopic gastrotomy (PEG) tube includes a front side and a back side. The front side includes a left section, a middle section, and a right section. The left and right sections each have a surface at least partially covered by a refastenable material, such as VELCRO®. The middle section has a surface including a first material. In an embodiment, the first material is cotton. The first material may cover substantially all of the middle section.

**[0007]** The back side includes an adhesive section and a non-adhesive section. The adhesive section has a surface at least partially covered by a hypoallergenic adhesive. In a preferred embodiment, a protective cover covers the hypoallergenic adhesive. The hypoallergenic adhesive may cover substantially all of the surface of the adhesive section. Alternately, the hypoallergenic adhesive is aligned in one or more strips on the surface of the adhesive section. The non-adhesive section has a surface including a second material. In an embodiment, the second material is cotton. The second material may cover substantially all of the non-adhesive section.

**[0008]** In a preferred embodiment, the apparatus has a notch removed from a first portion of the non-adhesive section and the one or more sections of the front side opposed to the first portion of the non-adhesive section.

**[0009]** In a preferred embodiment, a method of applying a PEG holder to a recipient in order to hold a PEG tube includes first adhering the PEG holder to the recipient. The PEG holder includes a front side and a back side. The front side includes a left section, a middle section, and a right section. The left and right sections each have a surface at least partially covered by a refastenable material. The back side has a surface partially covered by a hypoallergenic adhesive for adhering the PEG holder to the recipient. The method also includes placing the PEG tube in the middle section and affixing the refastenable material of the left section to the refastenable material of the right section. In an embodiment, the method further includes removing a protective cover covering the hypoallergenic adhesive before adhering the PEG holder to the recipient. In an embodiment, placing the PEG tube includes aligning the PEG tube such that a receiving end of the PEG tube extends substantially vertically upward.

**[0010]** In a preferred embodiment, a method of removing a PEG tube from a PEG holder attached to a recipient includes first unfastening a PEG holder. The PEG holder includes a front side and a back side. The front side includes a left section, a middle section, and a right section. The left and right section each have a refastenable material. The back side includes a surface that is partially covered by a hypoallergenic adhesive. The back side is initially adhered to a recipient. Unfastening the PEG holder includes unfastening the left section of the PEG holder from the right section of the PEG holder. The method also includes removing the PEG tube from the middle section. In an embodiment, the method further includes removing the back side of the PEG holder from the recipient.

**[0011]** This apparatus provides several advantages, including an increase in patient comfort and an increase in the reliability and lifespan of a PEG tube as it is less likely to be compromised. In addition, a higher level of medical care may result an enable stoma health. Another advantage of the

tube holder is that it may be manufactured from readily available materials, utilizing common manufacturing technologies and techniques.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0012]** In part, other aspects, features, benefits and advantages of the embodiments of the present invention will be apparent with regard to the following description, appended claims and accompanying drawings where:

**[0013]** FIG. 1 illustrates a front view of a preferred embodiment of the present invention.

**[0014]** FIG. 2 illustrates a back view of a preferred embodiment of the present invention.

**[0015]** FIG. 3 illustrates a front view of an exemplary PEG holder as it envelopes a PEG according to an embodiment of the present invention.

**[0016]** FIG. 4 illustrates a front view of an exemplary embodiment of the present invention as attached to the body of a user and folded into an enveloped PEG holder.

## DETAILED DESCRIPTION OF THE INVENTION

**[0017]** Before the present compositions and methods are described, it is to be understood that this invention is not limited to particular compositions, methodologies or protocols described, as these may vary. It is also to be understood that the terminology used in the description is for the purpose of describing the particular versions or embodiments only, and is not intended to limit the scope of the present invention which will be limited only by the appended claims.

**[0018]** It must also be noted that as used herein and in the appended claims, the singular forms "a," "an" and "the" include plural references unless the context clearly dictates otherwise. Thus, for example, reference to a "PEG holder" is a reference to one or more PEG holders and

equivalents thereof known to those skilled in the art, and so forth. Unless defined otherwise, all technical and scientific terms used herein have the same meanings as commonly understood by one of ordinary skill in the art. Although any methods, devices and material similar or equivalent to those described herein can be used in the practice of testing of embodiments of the present invention, the preferred methods, devices, and materials are now described. All publications mentioned herein are incorporated by reference. Nothing herein is to be construed as an admission that the invention is not entitled to antedate such disclosure by virtue of prior invention.

**[0019]** The present invention provides a PEG holder that functions as a safe anchor for a PEG. FIG. 1 illustrates a front side of a preferred embodiment of the present invention. The PEG holder **100** may be a pad with a substantially rectangular perimeter having seamed and/or sealed perimeter edges. In a preferred embodiment, a corner of the PEG holder **100** may have a notch **125** cut out of it. The notch **125** may also be seamed and/or sealed. In a preferred embodiment, the PEG holder **100** may be approximately four inches long by approximately two inches wide by approximately one-eighth of an inch thick. The surface of the front side of the PEG holder **100** may be divided into three sections lengthwise, including a left section **105**, a middle section **110** and a right section **115**. The left section **105** and the right section **115** may each encompass approximately one-fourth of the length of the PEG holder **100**. Each of the left section **105** and the right section **115** may each be covered with a material that allows for repetitive attachment and disengagement of the two sections, such as VELCRO®. The middle section **110** may encompass approximately one-half of the length of the PEG holder **100**, and may be covered in an absorbent material, such as cotton.

**[0020]** FIG. 2 illustrates a back side of a preferred embodiment of the present invention. The back side of a PEG holder **100** may also be referred to as a contact side. The back side of the

PEG holder **100** may be sectioned in two substantially equal sized lengthwise sections. A non-adhesive section **205** may be covered in an absorbent material, preferably cotton. An adhesive section **210** may be at least partially covered with a hypoallergenic adhesive. In a preferred embodiment, the adhesive may be applied to substantially all of the adhesive section **210**. In an alternate embodiment, the adhesive may be applied in adhesive strips in any orientation within the adhesive section **210**. Prior to adhesion to a recipient, the adhesive section **210** may have a protective cover (not shown). Once the protective cover is removed, the adhesive properties may be revealed and introduced to the recipient. A corner of the non-adhesive section **205** may have a tab extending up from the edge.

**[0021]** The PEG holder **100** may ensure that a user's PEG and stoma, a surgically created opening in the stomach in which the PEG is placed, are protected. The PEG holder **100** may be made of a thin absorbent material, preferably cotton. The PEG holder **100** may be reusable and inexpensive to manufacture. It may also be pre-assembled, lightweight, portable and comfortable for the user, ensure the health of the stoma, and protect the condition of the PEG.

**[0022]** FIGs. 3A-3C illustrate front views of an exemplary PEG holder **100** as it is attached for use according to an embodiment of the present invention. A preferred method of using the PEG holder **100** will now be described. The protective cover from the adhesive section **210** of the back side of the PEG holder **100** may be removed. The adhesive section **210** may be placed against the skin of a recipient, preferably in a location near a stoma. By pressing gently on the front side of the PEG holder **100**, the adhesive section **210** may adhere to the skin of the recipient, while the non-adhesive section **205** of the back side of the PEG holder **100** may remain free from the skin. A PEG may be placed in the middle section **110** of the front side of the PEG holder **100** with the PEG's valve facing substantially in a vertically upward direction, as shown in FIG. 3A. The tube of the

PEG may be held against the middle section **110** of the PEG holder **100** by a user while the non-adhesive section **205** is folded around the PEG, as shown in FIG. 3B. The non-adhesive section **205** may be pressed until the VELCRO® on the left section **105** of the front side is coupled with the VELCRO® on the right section **115**, as shown in FIG. 3C. At this point, the PEG may be secure within the enveloping PEG holder **100**.

**[0023]** When a user, caregiver, or health care professional needs to administer liquid foods or mendicants to the recipient, the PEG may be accessed by unfastening the PEG holder **100**. The PEG holder **100** may be unfastened by inserting a finger between the left section **105** and the right section **115** of the PEG holder **100**. The user may then gently pull the non-adhesive section **205** away from the adhesive section **210** so that the VELCRO® on the left section **105** and the right section **115** disengage. In a preferred embodiment, a notch **125** is provided on the non-adhesive section **205** and the opposing section or sections of the front side to aid the disengagement of the left section **105** from the right section **115**. Once the left section **105** and the right section **115** are disengaged, the PEG may be removed from the middle section **110** of the PEG holder **100**.

**[0024]** When removing the PEG holder **100** from the skin of a recipient, the PEG must first be removed as described in the preceding paragraph. The user, caregiver, or health care professional may then gently pull the adhesive section **210** away from the skin until it is disengaged.

**[0025]** FIGs. 4A-4C illustrate front views of an exemplary embodiment of the present invention as it may be attached to the body of a user and folded into the enveloped PEG holder form. FIGs. 4A-4C represent plausible positionings of the PEG holder **100** on the body of a recipient to ensure that gravitational pressure from the PEG on the stoma is avoided. In a preferred embodiment, the PEG valve and fluid delivery end of the PEG may be pointed in a substantially

vertically upward direction to prevent leakage of remnant fluid from the PEG. FIG. 4B may represent a most preferred embodiment since remnant fluid may not gather within the PEG.